RAW SEQUENCE LISTING
ERROR REPORT

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number: 10/702,228
Source: IFWO
Date Processed by STIC: 6/2/04

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.
PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:
1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,
2) TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY
FOR CRF SUBMISSION AND PATENTIN SOFTWARE QUESTIONS, PLEASE CONTACT MARK SPENCER, TELEPHONE: 571-272-2510; FAX: 571-273-0221

TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE **CHECKER VERSION 4.2 PROGRAM**, ACCESSIBLE THROUGH THE U.S. PATENT AND TRADEMARK OFFICE WEBSITE. SEE BELOW FOR ADDRESS.
          http://www.uspto.gov/web/offices/pac/checker/chkrnote.htm

Applicants submitting genetic sequence information electronically on diskette or CD-Rom should be aware that there is a possibility that the disk/CD-Rom may have been affected by treatment given to all incoming mail.
Please consider using alternate methods of submission for the disk/CD-Rom or replacement disk/CD-Rom.
Any reply including a sequence listing in electronic form should NOT be sent to the 20231 zip code address for the United States Patent and Trademark Office, and instead should be sent via the following to the indicated addresses:

1. EFS-Bio (<http://www.uspto.gov/ebc/efs/downloads/documents.htm> , EFS Submission User Manual - ePAVE)
2. U.S. Postal Service: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450
3. Hand Carry, Federal Express, United Parcel Service, or other delivery service (EFFECTIVE 06/05/04):
    U.S. Patent and Trademark Office, 220 20th Street S., Customer Window, Mail Stop Sequence, Crystal Plaza Two, Lobby, Room 1B03, Arlington, VA 22202

Revised 05/17/04

IFWO

RAW SEQUENCE LISTING   DATE: 06/02/2004
PATENT APPLICATION: US/10/702,228   TIME: 12:05:44

Input Set : A:\341030US1.txt
Output Set: N:\CRF4\06022004\J702228.raw

```
  4 <110> APPLICANT: Slater, Michael R.
  5        Wood, Keith V.
  6        Hartnett, James Robert
  7        Promega Corporation
  9 <120> TITLE OF INVENTION: Vectors for Directional Cloning
 12 <130> FILE REFERENCE: 341.030US1
 14 <140> CURRENT APPLICATION NUMBER: 10/702,228
 15 <141> CURRENT FILING DATE: 2003-11-05
 17 <150> PRIOR APPLICATION NUMBER: 10/678,961
 18 <151> PRIOR FILING DATE: 2003-10-03
 20 <160> NUMBER OF SEQ ID NOS: 92
 22 <170> SOFTWARE: FastSEQ for Windows Version 4.0
 24 <210> SEQ ID NO: 1
 25 <211> LENGTH: 18
 26 <212> TYPE: DNA
 27 <213> ORGANISM: Artificial Sequence
 29 <220> FEATURE:
 30 <223> OTHER INFORMATION: A synthetic DNA fragment
 32 <220> FEATURE:
 33 <221> NAME/KEY: misc_feature
 34 <222> LOCATION: 18
 35 <223> OTHER INFORMATION: n = A, T, G, or C
 37 <400> SEQUENCE: 1
W--> 38 aaggagcgat cgccatgn                                    18
 40 <210> SEQ ID NO: 2
 41 <211> LENGTH: 11
 42 <212> TYPE: DNA
 43 <213> ORGANISM: Artificial Sequence
 45 <220> FEATURE:
 46 <223> OTHER INFORMATION: A synthetic DNA fragment
 48 <220> FEATURE:
 49 <221> NAME/KEY: misc_feature
 50 <222> LOCATION: 8-10
 51 <223> OTHER INFORMATION: n = A, T, G, or C
 53 <220> FEATURE:
 54 <221> NAME/KEY: misc_feature
 55 <222> LOCATION: 11
 56 <223> OTHER INFORMATION: n = an open reading frame
 58 <400> SEQUENCE: 2
W--> 59 cgccatgnnn n                                           11
 66 <210> SEQ ID NO: 3
 67 <211> LENGTH: 12
 68 <212> TYPE: DNA
```

Does Not Comply
Corrected Diskette Needed
(PS.1)

PS.6-7

—"N" CAN only Represent a single Nucleotide.

The type of errors shown exist throughout the Sequence Listing. Please check subsequent sequences for similar errors.

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```
        Input Set : A:\341030US1.txt
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   69 <213> ORGANISM: Artificial Sequence
   72 <220> FEATURE:
   73 <223> OTHER INFORMATION: A synthetic DNA fragment
   75 <220> FEATURE:
   76 <221> NAME/KEY: misc_feature
   77 <222> LOCATION: 1-6
   78 <223> OTHER INFORMATION: n = A, T, G, or C
   80 <400> SEQUENCE: 3
W--> 81 nnnnnngtct tc                                          12
   83 <210> SEQ ID NO: 4
   84 <211> LENGTH: 10
   85 <212> TYPE: DNA
   86 <213> ORGANISM: Artificial Sequence
   88 <220> FEATURE:
   89 <223> OTHER INFORMATION: A synthetic DNA fragment
   91 <220> FEATURE:
   92 <221> NAME/KEY: misc_feature
   93 <222> LOCATION: 1-4
   94 <223> OTHER INFORMATION: n = A, T, G, or C
   96 <400> SEQUENCE: 4
W--> 97 nnnngaagag                                             10
   99 <210> SEQ ID NO: 5
  100 <211> LENGTH: 13
  101 <212> TYPE: DNA
  102 <213> ORGANISM: Artificial Sequence
  104 <220> FEATURE:
  105 <223> OTHER INFORMATION: A synthetic DNA fragment
  107 <220> FEATURE:
  108 <221> NAME/KEY: misc_feature
  109 <222> LOCATION: 6-13
  110 <223> OTHER INFORMATION: n = A, T, C, or G
  112 <400> SEQUENCE: 5
W--> 113 gcagcnnnnn nnn                                         13
  115 <210> SEQ ID NO: 6
  116 <211> LENGTH: 11
  117 <212> TYPE: DNA
  118 <213> ORGANISM: Artificial Sequence
  120 <220> FEATURE:
  121 <223> OTHER INFORMATION: A synthetic DNA fragment
  123 <220> FEATURE:
  124 <221> NAME/KEY: misc_feature
  125 <222> LOCATION: 1-5
  126 <223> OTHER INFORMATION: n = A, T, G or C
  128 <400> SEQUENCE: 6
W--> 129 nnnnngagac g                                          11
  132 <210> SEQ ID NO: 7
  133 <211> LENGTH: 11
  134 <212> TYPE: DNA
  135 <213> ORGANISM: Artificial Sequence
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```
       137 <220> FEATURE:
       138 <223> OTHER INFORMATION: A synthetic DNA fragment
       140 <220> FEATURE:
       141 <221> NAME/KEY: misc_feature
       142 <222> LOCATION: 4-8
       143 <223> OTHER INFORMATION: n = A, T, C, or G
       145 <400> SEQUENCE: 7
W--> 146 gccnnnnngg c                                                    11
       148 <210> SEQ ID NO: 8
       149 <211> LENGTH: 14
       150 <212> TYPE: DNA
       151 <213> ORGANISM: Artificial Sequence
       153 <220> FEATURE:
       154 <223> OTHER INFORMATION: A synthetic DNA fragment
       156 <220> FEATURE:
       157 <221> NAME/KEY: misc_feature
       158 <222> LOCATION: 6-14
       159 <223> OTHER INFORMATION: n = A, T, G, or C
       161 <400> SEQUENCE: 8
W--> 162 ggatgnnnnn nnnn                                                 14
       164 <210> SEQ ID NO: 9
       165 <211> LENGTH: 11
       166 <212> TYPE: DNA
       167 <213> ORGANISM: Artificial Sequence
       169 <220> FEATURE:
       170 <223> OTHER INFORMATION: A synthetic DNA fragment
       172 <220> FEATURE:
       173 <221> NAME/KEY: misc_feature
       174 <222> LOCATION: 1-5
       175 <223> OTHER INFORMATION: n = A, T, G or C
       177 <400> SEQUENCE: 9
W--> 178 nnnnngagac c                                                   11
       180 <210> SEQ ID NO: 10
       181 <211> LENGTH: 10
       182 <212> TYPE: DNA
       183 <213> ORGANISM: Artificial Sequence
       185 <220> FEATURE:
       186 <223> OTHER INFORMATION: A synthetic DNA fragment
       190 <220> FEATURE:
       191 <221> NAME/KEY: misc_feature
       192 <222> LOCATION: 6-10
       193 <223> OTHER INFORMATION: N = A, T, G, or C
       196 <400> SEQUENCE: 10
W--> 197 gacgcnnnnn                                                     10
       199 <210> SEQ ID NO: 11
       200 <211> LENGTH: 11
       201 <212> TYPE: DNA
       202 <213> ORGANISM: Artificial Sequence
       204 <220> FEATURE:
```

```
      205 <223> OTHER INFORMATION: A synthetic DNA fragment
      207 <220> FEATURE:
      208 <221> NAME/KEY: misc_feature
      209 <222> LOCATION: 3-9
      210 <223> OTHER INFORMATION: n = A, T, G, or C
      212 <400> SEQUENCE: 11
W--> 213 ccnnnnnnng g                                                    11
      215 <210> SEQ ID NO: 12
      216 <211> LENGTH: 11
      217 <212> TYPE: DNA
      218 <213> ORGANISM: Artificial Sequence
      220 <220> FEATURE:
      221 <223> OTHER INFORMATION: A synthetic DNA fragment
      223 <220> FEATURE:
      224 <221> NAME/KEY: misc_feature
      225 <222> LOCATION: 3-9
      226 <223> OTHER INFORMATION: n = A, T, G, or C
      228 <400> SEQUENCE: 12
W--> 229 gcnnnnnnng c                                                    11
      231 <210> SEQ ID NO: 13
      232 <211> LENGTH: 10
      233 <212> TYPE: DNA
      234 <213> ORGANISM: Artificial Sequence
      236 <220> FEATURE:
      237 <223> OTHER INFORMATION: A synthetic DNA fragment
      239 <220> FEATURE:
      240 <221> NAME/KEY: misc_feature
      241 <222> LOCATION: 1-5
      242 <223> OTHER INFORMATION: n = A, T, C, or G
      244 <400> SEQUENCE: 13
W--> 245 nnnnngagac                                                      10
      247 <210> SEQ ID NO: 14
      248 <211> LENGTH: 11
      249 <212> TYPE: DNA
      250 <213> ORGANISM: Artificial Sequence
      252 <220> FEATURE:
      253 <223> OTHER INFORMATION: A synthetic DNA fragment
      255 <220> FEATURE:
      256 <221> NAME/KEY: misc_feature
      257 <222> LOCATION: 4-8
      258 <223> OTHER INFORMATION: n = A, T, G, or C
      260 <400> SEQUENCE: 14
W--> 261 ccannnnntg g                                                    11
      263 <210> SEQ ID NO: 15
      264 <211> LENGTH: 15
      265 <212> TYPE: DNA
      266 <213> ORGANISM: Artificial Sequence
      268 <220> FEATURE:
      269 <223> OTHER INFORMATION: A synthetic DNA fragment
```

RAW SEQUENCE LISTING   DATE: 06/02/2004
PATENT APPLICATION: US/10/702,228   TIME: 12:05:44

Input Set : **A:\341030US1.txt**
Output Set: **N:\CRF4\06022004\J702228.raw**

```
271 <220> FEATURE:
272 <221> NAME/KEY: misc_feature
273 <222> LOCATION: 6-15
274 <223> OTHER INFORMATION: n = A, T, G, or C
276 <400> SEQUENCE: 15
W--> 277 gtcccnnnnn nnnnn                                          15
279 <210> SEQ ID NO: 16
280 <211> LENGTH: 11
281 <212> TYPE: DNA
282 <213> ORGANISM: Artificial Sequence
284 <220> FEATURE:
285 <223> OTHER INFORMATION: A synthetic DNA fragment
287 <220> FEATURE:
288 <221> NAME/KEY: misc_feature
289 <222> LOCATION: 1-4
290 <223> OTHER INFORMATION: n = A, T, G, or C
292 <400> SEQUENCE: 16
W--> 293 nnnngaagag c                                             11
295 <210> SEQ ID NO: 17
296 <211> LENGTH: 14
297 <212> TYPE: DNA
298 <213> ORGANISM: Artificial Sequence
300 <220> FEATURE:
301 <223> OTHER INFORMATION: A synthetic DNA fragment
303 <220> FEATURE:
304 <221> NAME/KEY: misc_feature
305 <222> LOCATION: 1-8
306 <223> OTHER INFORMATION: n = A, T, G, or C
308 <400> SEQUENCE: 17
W--> 309 nnnnnnnngc aggt                                          14
314 <210> SEQ ID NO: 18
315 <211> LENGTH: 14
316 <212> TYPE: DNA
317 <213> ORGANISM: Artificial Sequence
320 <220> FEATURE:
321 <223> OTHER INFORMATION: A synthetic DNA fragment
323 <220> FEATURE:
324 <221> NAME/KEY: misc_feature
325 <222> LOCATION: 1-9
326 <223> OTHER INFORMATION: n = A, T, G, or C
328 <400> SEQUENCE: 18
W--> 329 nnnnnnnnng atgc                                          14
331 <210> SEQ ID NO: 19
332 <211> LENGTH: 12
333 <212> TYPE: DNA
334 <213> ORGANISM: Artificial Sequence
336 <220> FEATURE:
337 <223> OTHER INFORMATION: A synthetic DNA fragment
339 <220> FEATURE:
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RAW SEQUENCE LISTING ERROR SUMMARY   DATE: 06/02/2004
PATENT APPLICATION: US/10/702,228   TIME: 12:05:45

Input Set : A:\341030US1.txt
Output Set: N:\CRF4\06022004\J702228.raw

Please Note:
Use of n and/or Xaa have been detected in the Sequence Listing. Please review the
Sequence Listing to ensure that a corresponding explanation is presented in the <220>
to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:1; N Pos. 18
Seq#:2; N Pos. 8,9,10,11
Seq#:3; N Pos. 1,2,3,4,5,6
Seq#:4; N Pos. 1,2,3,4
Seq#:5; N Pos. 6,7,8,9,10,11,12,13
Seq#:6; N Pos. 1,2,3,4,5
Seq#:7; N Pos. 4,5,6,7,8
Seq#:8; N Pos. 6,7,8,9,10,11,12,13,14
Seq#:9; N Pos. 1,2,3,4,5
Seq#:10; N Pos. 6,7,8,9,10
Seq#:11; N Pos. 3,4,5,6,7,8,9
Seq#:12; N Pos. 3,4,5,6,7,8,9
Seq#:13; N Pos. 1,2,3,4,5
Seq#:14; N Pos. 4,5,6,7,8
Seq#:15; N Pos. 6,7,8,9,10,11,12,13,14,15
Seq#:16; N Pos. 1,2,3,4
Seq#:17; N Pos. 1,2,3,4,5,6,7,8
Seq#:18; N Pos. 1,2,3,4,5,6,7,8,9
Seq#:19; N Pos. 4,5,6,7,8,9
Seq#:20; N Pos. 5,6,7,8,9
Seq#:21; N Pos. 1,2,3,4,5
Seq#:22; N Pos. 7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22
Seq#:23; N Pos. 4,5,6,7
Seq#:40; N Pos. 4,5,6,7
Seq#:54; N Pos. 4,5,6,7
Seq#:55; N Pos. 4,5,6,7
Seq#:69; N Pos. 14
Seq#:70; N Pos. 1,2,3
Seq#:71; N Pos. 1,2,3,4
Seq#:72; N Pos. 1,2,3,8,9,10
Seq#:73; N Pos. 6,7,8,9,10,11,12,13,14,15,16,17,18
Seq#:74; N Pos. 1,2,3,4,5,6,7,8,9,10,11,12,13
Seq#:75; N Pos. 8,9,10,11,12,13,14,15
Seq#:76; N Pos. 8,9,10,11
Seq#:77; N Pos. 5,6,7,8,9
Seq#:78; N Pos. 8,9,10,11
Seq#:79; N Pos. 3,4,5,6,7,8,9
Seq#:80; N Pos. 5,6,7,8,9
Seq#:81; N Pos. 4,5,6,7,8
Seq#:82; N Pos. 7,8,9,10,11,12,13,14,15,16,17,18
Seq#:83; N Pos. 1
Seq#:84; N Pos. 1
Seq#:86; N Pos. 1,2,3,12
Seq#:87; N Pos. 1,2,3,11

RAW SEQUENCE LISTING ERROR SUMMARY   DATE: 06/02/2004
PATENT APPLICATION: US/10/702,228   TIME: 12:05:45

Input Set : A:\341030US1.txt
Output Set: N:\CRF4\06022004\J702228.raw

Seq#:88; N Pos. 1,2,3,11
Seq#:89; N Pos. 1
Seq#:91; N Pos. 1,2,3,12
Seq#:92; N Pos. 7,8,9,10

VERIFICATION SUMMARY
PATENT APPLICATION: **US/10/702,228**

DATE: 06/02/2004
TIME: 12:05:45

Input Set : **A:\341030US1.txt**
Output Set: **N:\CRF4\06022004\J702228.raw**

```
L:38 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1 after pos.:0
L:59 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2 after pos.:0
L:81 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3 after pos.:0
L:97 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4 after pos.:0
L:113 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 after pos.:0
L:129 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6 after pos.:0
L:146 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7 after pos.:0
L:162 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8 after pos.:0
L:178 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 after pos.:0
L:197 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10 after pos.:0
L:213 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11 after pos.:0
L:229 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12 after pos.:0
L:245 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13 after pos.:0
L:261 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:14 after pos.:0
L:277 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:15 after pos.:0
L:293 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:16 after pos.:0
L:309 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:17 after pos.:0
L:329 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:18 after pos.:0
L:345 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:19 after pos.:0
L:361 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:20 after pos.:0
L:377 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:21 after pos.:0
L:393 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:22 after pos.:0
L:409 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:23 after pos.:0
L:626 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:40 after pos.:0
L:803 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:54 after pos.:0
L:820 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:55 after pos.:0
L:998 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:69 after pos.:0
L:1016 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:70 after pos.:0
L:1037 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:71 after pos.:0
L:1065 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:72 after pos.:0
L:1082 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:73 after pos.:0
L:1098 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:74 after pos.:0
L:1114 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:75 after pos.:0
L:1131 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:76 after pos.:0
L:1147 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:77 after pos.:0
L:1163 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:78 after pos.:0
L:1179 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:79 after pos.:0
L:1197 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:80 after pos.:0
L:1213 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:81 after pos.:0
L:1229 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:82 after pos.:0
L:1246 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:83 after pos.:0
L:1263 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:84 after pos.:0
L:1291 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:86 after pos.:0
L:1308 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:87 after pos.:0
L:1324 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:88 after pos.:0
L:1340 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:89 after pos.:0
L:1368 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:91 after pos.:0
L:1384 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:92 after pos.:0
```